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Patentitioner's Docket No. 1012-189(2003-012R1)

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Kolosov et al.  
Serial No.: 10/804,446  
Filed: 03/19/2004  
For: MECHANICAL RESONATOR

Group Art Unit: 2856  
Examiner: Unknown

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

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Applicants submit this statement in accordance with their duty of disclosure under 37 CFR 1.56 and 1.97-1.98. The submission made herewith is in no way intended as an admission that the cited items constitute material prior art or otherwise would render the claims unpatentable in any way. The submission also is in no way intended to substitute for the Examiner's own independent investigation.

A listing of the references on forms PTO/SB/08A and PTO/SB/08B are submitted herewith. Copies of the U.S. references have not been provided because its filing date falls after June 30, 2003. Applicants respectfully solicit the Examiner's consideration of the cited references and entry thereof into the record of this application.

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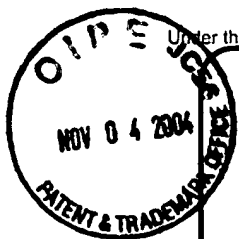
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Sheet **1** of **1**

### Complete if Known

Application Number	10/804,446
Filing Date	3/19/04
First Named Inventor	Kolosov et al.
Group Art Unit	
Examiner Name	
Attorney Docket Number	1012-189

### U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code <sup>2</sup> (if known)			
		3,622,968		Silverman	11/23/1971	
		3,718,032		Gray	02/27/1973	
		3,778,757		Houston	12/11/1973	
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		Office <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (if known)				
			EP 0102490		Bopp & Reuther GMBH	03/14/1984		
			EP 0282251		Schlumberger Electronics	09/14/1988		
			EP 0676638		Tektronix, Inc.	10/11/1995		
			WO 99/51980		Symyx	10/14/1999		
			WO 00/67086		Symyx	11/09/2000		
			WO 99/18431		Symyx	04/15/1999		
			GB 2187286		Hatschek	09/03/1987		
			WO 01/77624		The Charles Stark	10/18/2001		
			WO 91/02975		Ratner et al.	3/7/1991		

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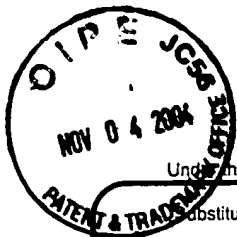
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		US- 2002/0162385	11/7/2002	Ismail et al.	
		US- 3,710,275	1/9/1973	Tanaka et al.	
		US- 4,549,427	10/29/1985	Kolesar, Jr.	
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		Country Code <sup>3</sup> Number <sup>4</sup> Kind Code <sup>5</sup> (if known)				

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		Office <sup>3</sup>	Number <sup>4</sup> (if known)				
		DE	4424422 (abstract)	Dieter et al.	1/18/1996		
		GB	2114745	Bestobell Ltd.	8/24/1983		
		JP	8112613 (abstract)	Sky Alum. Co. Ltd	5/7/1996		
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		JP	60134617 (abstract)	Kinseki KK	7/17/1985		
		WO	02/23134	Lewis	3/21/2002		

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		Number	Kind Code <sup>2</sup> (if known)			
		5,357,964		Spivey et al.	10/1994	
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Application Number	10/804,446
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First Named Inventor	Kolosov
Group Art Unit	
Examiner Name	
Attorney Docket Number	1012-189

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		Number	Kind Code <sup>2</sup> (if known)			
		4,767,719		Finlan	08/30/1988	
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		5,918,354		Ikegami et al.	7/6/1999	
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1012-189

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		Number	Kind Code <sup>2</sup> (if known)			
		5,235,844		Bonne et al.	8/17/1993	
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# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet 1 of 1

**Complete if Known**

Application Number	10/804,446
Filing Date	3/19/04
First Named Inventor	Kolosov
Group Art Unit	
Examiner Name	
Attorney Docket Number	1012-189

## U.S. PATENT DOCUMENTS

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## FOREIGN PATENT DOCUMENTS

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Sheet	1	of	1
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## U. S. PATENT DOCUMENTS

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		Country Code <sup>3</sup> -Number <sup>4</sup> -Kind Code <sup>5</sup> (if known)				
		EP 0 769 695 A	4-23-1997	NGK Insulators LTD		
		DE 100 14 724	9-27-2001	Endress Hauser GMBH Co.		
		JP 59126931	7-21-1984			

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		FISCH, M.R., et al., "Improved Acoustic Viscosimeter Technique", J. Acoust. Soc. Am., September 1976, pp. 623-625, v. 60, No. 3.	
		HLAVAY, J. and G.G. Guilbault, "Applications of the Piezoelectric Crystal Detector in Analytical Chemistry", Analytical Chemistry, November 1977, pp. 1890-1898, v. 49, No. 13.	
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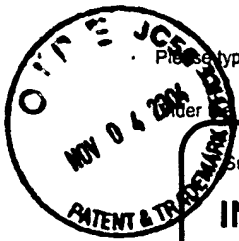
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		Patent Abstracts of Japan, Publication No. 05-129874, Application No. 03-291660, filing date 11/7/1991, Applicant: Seiko Epson Corp.	
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		PUJARI et al., Reliable Ceramics for Advanced Heat Engines, American Ceramic Society Bulletin, Volume 74, No. 4, April 1995, pages 86-90.	
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		MERHAUT, Theory of Electroacoustics, pages 100 and 101.	
		MANALIS et al., Two-dimensional Micromechanical Bimorph Arrays for Detection of Thermal Radiation, Appl. Phys. Lett., Vol. 70, No. 24, June 16, 1997, pages 3311-3313.	
		LIN et al., Operation of an Ultrasensitive 30-MHz Quartz Crystal Microbalance in Liquids, Analytical Chemistry, Vo. 65, No. 11, June 1, 1993, pages 1546-1551.	

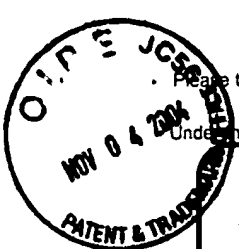
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		LI et al., Electromechanical Behavior of PZT-Brass Unimorphs, Journal of the American Ceramic Society, Vol. 82, No. 7, 1999, pages 1733-1740.	
		LANDAU et al., Fluid Mechanics, pages 96 and 97.	
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		FERRY, Viscoelastic Properties of Polymers, Chapters 5-8, pages 96-176.	

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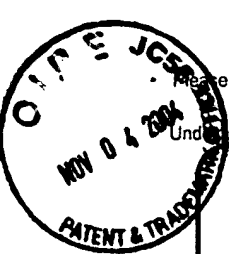
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		U.S. Application Serial No. 09/420,334 entitled "Graphic Design of Combinatorial Material Libraries" (Lacy, et al.) filed on October 18, 1999	
		U.S. Patent Application Serial No. 09/305,830 titled "Synthesizing Combinatorial Libraries of Materials" (Rust, et al.) filed on May 5, 1999	
		U.S. Application Serial No. 09/755,623 entitled "Laboratory Database System and Methods For Combinatorial Materials Research" (Dorsett, Jr., et al.) filed on January 5, 2001.	
		The family of applications for U.S. Patent Application Serial No. 09/174,856 titled "Graphic Design of Combinatorial Material Libraries" (Lacy, et al.) filed on October 19, 1998.	
		U.S. Application Serial No. 09/550,549 entitled "Automated Process Control And Data Management System And Methods" (Crevier, et al.) filed on April 14, 2000.	
		U.S. Patent Application Serial No. 09/800,819 entitled "Method and Apparatus for Characterizing Materials by Using a Mechanical Resonator" filed on March 7, 2001.	
		U.S. Patent Application Serial No. 09/580,024 entitled "Instrument for High Throughput Measurement of Material Physical Properties and Method of Using the Same" filed on May 26, 2000.	
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		PCT International Search Report, dated 21 October 2002, PCT/US02/17780 (1012-167WO)	

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**C**

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Application Number

10/804.446

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3/19/04

First Named Inventor

Kolosov

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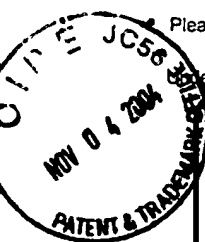
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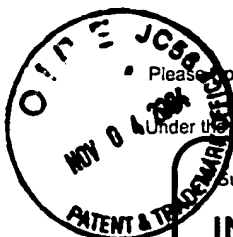
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Sheet 1 of 0

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Application Number	10/804,446
Filing Date	3/19/04
First Named Inventor	Kolosov
Group Art Unit	
Examiner Name	
Attorney Docket Number	1012-189

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		"Cantilever Sensor Research Tool for Science and Industry", diScentris, Veeco.	
		BENES et al., "Viscosity Sensor Based on a Symmetric Dual Quartz Thickness Shear Resonator", pages 1-7. 2003.	
		NSF Award Abstract #0239151, February 6, 2003, pages 1-2.	
		NUSSBAUM, "An Accurate Non-Radioactive Fluid Density Sensor", presentation to the Society of Petroleum Engineers, Bergen, Norway, April 1, 2003.	
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		"Oil Quality Sensor", www.sae.org, accessed on February 5, 2004.	
		"Refrigerant Flow in Evaporators", www.heatcrafterom.com, accessed on February 5, 2004.	

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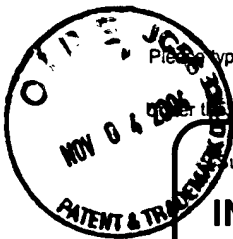
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		"Theory of the Vibrating Tuning Fork Fluid Density Tool", www. lncs.ac.uk, page 1, accessed on May 7, 2003.	
		"A Vibrating Tuning Fork Fluid Density Tool", www. smithinst.ac.uk, page 1, accessed on February 2, 2004.	
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		"SOS-Smart Oil Sensor", Impact Technologies, LLC.	
		Pamphlet by Kavlico-A Solectron Company, Capability Brochure Industrial Sensors and Transducers.	

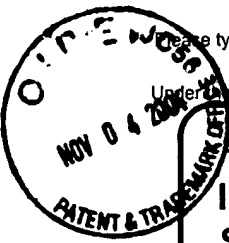
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		A&D Weighing, SV Series Users' Handbook V1.04E, pp. 1-40.	
		"EPSON presents the MC-30A: Reliable 32.768kHz Dedicated to Automotive Applications", August 25, 2003, www.epson.com, accessed on February 11, 2004.	
		LEC et al., "A Remote Acoustic Engine Oil Quality Sensor", 1997 IEEE UltraSonics Symposium, pp. 419-422.	
		ZHANG et al, "Contributions of Amplitude Measurement in QCM Sensors", IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, Vol. 43, No. 5, September 1996, pp. 942-947.	

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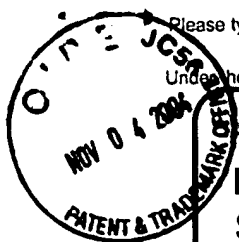
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		SMITH et al., Water Sorption Isotherms and Enthalpies of Water Sorption by Lysozyme Using the Quartz Crystal Microbalance/heat Conduction Calorimeter, BIOCHIMICA et BIOPHYSICA ACTA, October 4, 2001, pages 150-159.	
		ULBRICHT, Helmar, Crimpen-eine ausgereifte AnschluBtechnik	
		International Search Report dated 8/4/2004, PCT/US2004/008552	
		Zeisel et al., A PRecise and Robust Quartz Sensor Based on Tuning Fork Technology for (SF6)- Gas Density Control, Elsevier Sciences, 2000	

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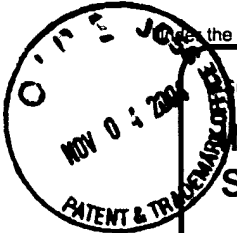
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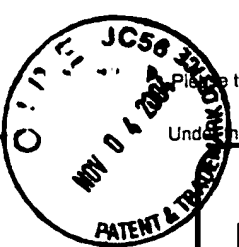
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		J.W. Grate, et al, "Smart Sensor System for Trace Organophosphorus and Organosulfur Vapor Detection Employing a Temperature-Controlled Array of Surface Acoustic Wave Sensors, Automated Sample Preconcentration, and Pattern	
		"Viscosity and Density Sensing with Ultrasonic Plate Waves, B.A. Martin, S.W. Wenzel, and R.M. White, Sensors and Actuators, A21-A23 (1990), 704-708	
		"On-line Sensor for Density and Viscosity Measurement of a Liquid or Slurry for Process Control in the Food Industry" Margaret S. Greenwood, Ph.D. James R. Skorpik, Judith Ann Bamberger, P.E. Sixth Conference on Food Engineering, 1999 AIChE Annual Meeting, Dallas, Texas	
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		"Frequency response of cantilever beams immersed in viscous fluids with applications to the atomic force microscope", J.E. Sader, J. Appl. Phys. 84, 64-76 (1998)	
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		J. Sorab, G.S. Saloka: "Engine Oil Viscosity Swnsors Using Disks of PZT Ceramic as Electromechanical Vibrators" Society of Automotive Engineers SAE, no. 971702, 1997	
		E. Bohmer, "Elemente der angewandten Elektronik", August 1978, with English translation	

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		Zhang et al.: "Determination of Liquid density with a low frequency mechanical sensor based on quartz tuning fork" Sensors and Actuators B, Elsevier Sequoia S.A. Lausanne, CH. vol. 84, no. 2-3, May 15, 2002, pages 123-128.	
		Shih et al.: "Simultaneous Liquid Viscosity and Density Determination with Piezoelectric Unimorph Cantilevers: Journal of Applied Physics, American Institute of Physics. New York, U.S., vol. 89, no. 2, January 15, 2001, pages 1497-1505.	
		Dring et al.: "Integrated on-line multisensing of fluid flow using a mechanical resonator" Sensors and Actuators A, Elsevier Sequoia S.A., Lausanne, CH, vol. 85, no. 1-3, August 25, 2000, pages 275-279.	
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		MURAMATSU et al., "Viscosity Monitoring with a Piezoelectric Quartz Crystal and Its Application to Determination of Endotoxin by Gelation of Limulus Amebocyte Lysate", March 8, 1988.	
		LANGDON, "Vibratory Process Control Transducers", The Marconi Review, Third Quarter, 1980, pp 156-175.	
		Invitation to Pay Additional Fees, PCT/US03/32983, mailed April 8, 2004. (1012.192WO)	

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